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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/701,994	11/05/2003	Michael Mallary	07632.00 (043886-0222)	6624
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FOLEY & LARDNER 2029 CENTURY PARK EAST SUITE 3500 LOS ANGELES, CA 90067				
EXAMINER				
BLOUIN, MARK S				
ART UNIT		PAPER NUMBER		
2627				
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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

### Office Action Summary

**Application No.**

10/701,994

**Applicant(s)**

MALLARY ET AL.

**Examiner**

MARK BLOUIN

**Art Unit**

2627

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 09 December 2008.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1,2,8-13,17,18,30-35 and 39-42 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,2,8-13,17,18,30-35 and 39-42 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date 12/9/08
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

**Detailed Action**

***Response to Amendment***

- The reply filed December 9, 2009 was applied to the following effect: Claims 1,12,17,18,30, and 34 are amended.

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

1. Claims 1,2,8-13,17,18,30-35, and 39-42 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sato et al (USPub 2002/0135937) in view of Shukh et al (2002/0176214).
2. Regarding Claims 1,13, and 30, Sato et al shows (Figs. 1-30) a read/write head for a disk drive, the head being suitable for recording data in adjacent magnetic recording media, the media including a first layer for recording data and a second layer that is a soft underlayer to return magnetic flux to the read/write head, the head comprising: a substrate (17); a write pole (14) formed directly on the substrate comprising a write pole tip (14A) formed proximate to the substrate, the write pole having a magnetic via section (14C); a write shield (8) formed proximate to the write pole and located on an opposite side of the write pole from the substrate, the write shield being magnetically connected to the magnetic via section of the write pole; a read element comprising a magnetoresistive sensor(5) formed adjacent to the write element on an opposite side of the write element from the substrate, a first read shield (6) proximate to the write

shield and located on an opposite side of the write shield from the substrate; a second read shield (3) proximate to the first read shield and located on an opposite side of the first read shield from the write pole; a magnetoresistive sensor (5) located between the first and second read shields; and, wherein the first read shield is magnetically connected to the write pole, wherein the distance between the write pole tip and the substrate is less than the distance between the shield and the substrate, but does not show wherein the read element is located between the write pole and the trailing edge of the read/write head.

Shukh et al shows (Figs.8-15) the read element is located between the write pole and the trailing edge of the read/write head. In fact, Shukh et al shows that the media motion can travel in both directions. It would be obvious to one of ordinary skill in the art at the time of the invention to arrange the read and write element in Sato as taught by Shukh in order to accurately reproduce and record data from an information recording medium,

3. Regarding Claim 2 and 31-33, Sato et al shows (Figs. 1-30) a read/write head, further including a write coil (10) that coils around the magnetic via section (14C), wherein the write coil is a pancake (flat) coil, wherein there are no other write coils.
4. Regarding Claims 8-11, Sato et al shows (Figs. 1-30) a read/write head, wherein the read element includes a pair of read shields (3 and 6) and the write element includes a write pole (14) and a write shield (8) that is magnetically connected to the write pole, wherein the write element includes a coil (10) that coils around a portion of the write element that connects the write shield to the write pole, wherein the write coil is a pancake (flat) coil, wherein there are no other write coils.

5. Regarding Claims 17 and 39, Sato et al shows (Figs. 1-30) a read/write head, wherein the adjacent magnetic recording media is caused to move relative to the read/write head in a direction that causes a given portion of media to pass first by the write pole (14) and then by the magnetoresistive sensor (5).
6. Regarding Claims 18 and 40, Sato et al shows (Figs. 1-30) a read/write head, wherein the head is configured to perpendicularly record data in the first layer of the adjacent magnetic recording media.
7. Regarding Claim 35, Sato et al shows (Figs. 1-30) a read/write head, wherein the write pole (14) is formed directly on the substrate (17).
8. Regarding Claim 41, Sato et al shows (Figs. 1-30) a read/write head wherein a single uniform layer of insulating material (7) separates the write element and read element.
9. Regarding Claim 42, Sato et al shows (Figs. 1-30) a read/write head wherein a region of insulating material (15) separates a tip of the write pole (14) from the substrate.
10. Regarding Claim 12, Sato et al shows (Figs. 1-30) a read/write head for a disk drive, the head being suitable for recording data in adjacent magnetic recording media, the media including a first layer for recording data and a second layer that is a soft underlayer to return magnetic flux to the read/write head, the head comprising: a substrate (17); a write element (upper portion of magnetic head having write pole) formed adjacent the substrate, the write element being configured to record data in adjacent media; a read element (5) formed adjacent the write element, on an opposite side of the write element from the substrate; wherein the read element comprises a read shield magnetically connected to the write element; wherein the read element includes a pair of read shields (3 and 6) and the write element includes a write pole (14) and a

write shield (8) that is magnetically connected to the write pole; and wherein the distance from the write pole to the soft underlayer falls within a range from approximately equal to the distance from the write shield to the write pole to approximately twice the distance from the write shield to the write pole.

11. Regarding Claim 34, Sato et al shows (Figs. 1-30) a read/write head for a disk drive, the head being suitable for recording data in adjacent magnetic recording media, the media including a first layer for recording data and a second layer that is a soft underlayer to return magnetic flux to the read/write head, the head comprising: a substrate (17); a write pole (14) formed proximate to the substrate, the write pole having a magnetic via section (14C); a write shield (8) formed proximate to the write pole and located on an opposite side of the write pole from the substrate, the write shield being magnetically connected to the magnetic via section of the write pole; a first read shield (6) proximate to the write shield and located on an opposite side of the write shield from the substrate; a second read shield (3) proximate to the first read shield and located on an opposite side of the first read shield from the write pole; a magnetoresistive sensor (5) located between the first and second read shields; wherein the first read shield is magnetically connected to the write pole; and wherein the distance from the write pole to the soft underlayer falls within a range from approximately equal to half the distance from the write shield to the write pole to approximately twice the distance from the write shield to the write pole.

#### ***Response to Arguments***

12. Applicant's arguments with respect to claims 1,2,8-13,17,18,30-35, and 39-42 have been considered but are moot in view of the new ground(s) of rejection.

#### ***Conclusion***

13. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

14. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Mark Blouin whose telephone number is 571-272-7583. The examiner can normally be reached on M-F from 6:00 to 3:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mr. Joe Feild, can be reached on 571-272-4090. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR

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system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/Mark Blouin/

Primary Examiner of Art Unit 2627

Mark Blouin  
Patent Examiner  
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February 3, 2009